(Common) Seaweeds of India

Jha, B., Reddy, C.R.K., Thakur M.C., Rao, M.U. (2009).
Seaweeds of India. The Diversity and Distribution of Sea weeds of the Gujarat Coast.
Developments in Applied Phycology, Springer, Dordrecht. Vol. 3. XII, 216 p., hardback. ISBN: 9789048124879. Price: US$129.

Sahoo, Dinabandhti. (2010). ***Common Seaweeds of India***
I.K International Publishing house Pvt. Ltd.. New Delhi. 210 p., hardback. ISBN: 9788190777063. Price: US$110.

John M. Huisman

Biological Sciences and Biotechnology, Murdoch University,
Murdoch, WA 6150, Australia
e-mail: J.Huisman@murdoch.edu.au

Recent years have seen the appearance of a number of color field guides describing the seaweeds of various locations, the market now possibly close to the point of saturation. Added to this growing list, we now have not one, but two books on Indian seaweeds, their titles differing only slightly. Seaweeds of India by Jha et al. (hereafter, SI) appeared in 2009, Common Seaweeds of India by Sahoo (CSI) in early 2010. SI includes 198 species and concentrates on the Gujarat coast, in western India; CSI has a broader geographical coverage but describes only 113 species, allegedly including only the common species.

The books have much in common, both in included species and layout. Of the 113 species in CSI, 77 are also represented in SI. Both books are based primarily on color in situ photographs of intertidal seaweeds, with a small number of herbarium specimens and microscopic images. SI also includes smaller images purporting to show the detail of thalli, and microscopic sections where these are deemed necessary for identification. Both books include a paragraph or two describing each of the species, with SI also including geographical coordinates of locations for each species. In addition to the taxonomic section, numerous location/habitat images are given; CSI includes 19 images of various Indian locations and four showing substratum types, SI has 15 images of collecting sites, although these are all crammed into one page and are probably too small to be of any value.

The success or failure of photography-based field guides lies almost entirely with the quality of the images. In most, including both of these books, the written descriptions are

truncated and lack the detail found in standard Floras and monographs, so accurate identification of specimens (the primary purpose) becomes almost impossible without informative images. Two aspects of image selection are important: quality, where only those images of an acceptable technical standard are considered, and information, where, from that group, only useful images showing distinguishing features are chosen. The latter standard can be difficult to meet and we often see additional images or drawings supplementing the field photographs, highlighting characteristic features (see Littler and Littler's Caribbean Reef Plants for excellent examples). The initial cull based on quality, however, should be relatively straightforward, so it came as a surprise that both of these books failed on numerous occasions. CSI is by far the worst offender, but SI also has its share of poor images, both often disregarding some of the basic rules of photography. Rule Number One: FOCUS. How anything but pin-sharp images can find their way into expensive publications is beyond my comprehension, but both books are guilty. CSI's image of Scinaia moniliformis (p. 119) is a prime example, with not one part of the image in focus. Many others are similarly poor [Gracilaria edulis (p. 133), Gelidiella acerosa (p. 125), Hypnea valentiae (p. 161)], and even those seemingly in focus are slightly soft, possibly due to the printing process. SI fares much better, probably due to higher production values, but also has its share of poorly focused images, e.g., Dictyosphaeria cavernosa (p. 30), Codium geppiorum (p. 54), and Champia globulifera (p. 155). Rule Number Two: EXPOSURE. Perhaps a little more difficult due to problems inherent in photographing subjects that are often reflective, but given many cameras these days provide instant review in the form of exposure histograms, there really is no excuse for poorly exposed images. An example of overexposure is CSI's Acetabularia calyculis (p. 63), of underexposure SI's Ahnfeltia plicata (p. 112), and virtually all of the latter book's smaller, secondary images. Rule Number Three: COMPOSITION. Ideally, the image should have the subject isolated from the background, either by selective focusing or an appropriate camera angle. Again, the subject matter can dictate that this is not always possible, but if a good image cannot be obtained, move on and find a better subject. Experiment with different angles and exposures. Highly reflective surfaces should be avoided, or photographed during early morning or late in the evening when the ‘hot-spots’ are less prominent. If photographing immersed seaweeds in rock pools, position the camera such that the surface of the water does not reflect into the lens, or stand such that you cast a shadow. Even better, get a housing and photograph the seaweed in the water. Given that the primary purpose of these books is identification, the value of what appears to be a green shadow in muddy water (Enteromorpha compressa, CSI: 51), or a seaweed totally lost in the background (Caulerpa serrulata, CSI: 53), or hidden behind a reflective water surface (Caulerpa scalpelliformis, CSI: 53 and Sargassum wightii, CSI: 101) is next to zero. On one occasion, Acanthophora dendroides (SI: 185), the camera can even be seen reflected in the water surface. I could go on, about poor color balance (Codium dwarkense, CSI: 55), sloping horizons, inadequate resolution, examples of which are found on way too many occasions, but I think my point has been made.

What about the text? SI is by far the better of the two. The descriptions are reasonable and typographical errors are rare (Acanthophora specifera should be spicifera, Helminthocladia clavadosii should be calvadosii). The descriptions in CSI are often poorly written, repetitive (Monostroma oxyspermum, p. 18), and occasionally perplexing (the text for Halimeda gracilis, p. 56, states “basal portion not seen”, but it is shown in the photo). Some of the names do not follow current usage, for example Enteromorpha is included in both books, when, for several years now, the genus has been subsumed into Ulva. The aforementioned M. oxyspermum is generally placed in Gayralia. Laurencia papillosa (SI: 199) is currently placed in Palisada. Coelarthrum muelleri (SI: 161) is now C. opuntia (as given in CSI: 176). Stoechospermum marginatum (CSI: 80: SI: 161) is now Stoechospermum polypodioides. There are also what appear to be misidentifications. Digenea simplex (SI: 192) is probably not that species, as is almost certainly true of Gracilaria eucheumatoides (CSI: 134), which is now Hydropuntia in any case. The detail photo of Ceramium diaphanum (CSI: 181) would appear to be Centroceras clavulatum. Both books also include a short list of references, that of CSI seemingly randomly compiled, with many in the list not cited in the text, and possibly selected to reflect the author's interests (11 of the 25 references listed are by the author or his students). Neither book includes a glossary, which is a shame as some unfamiliar terminology is used, such as SI's ‘remiform’ (oar-shaped).

Would I recommend either of these books? At the suggested prices of US$110 for Common Seaweeds of India and US$129 for Seaweeds of India, they are unlikely to appeal to those with only a casual interest in Indian seaweeds. The stated intended audiences include teachers, researchers, students, industries, and policy planners interested in algal resource management, utilization, and conservation, but I imagine only a handful of those could justify the purchase price. For those able to, SI is by far the better buy. Although slightly more expensive, it includes most of the species found in CSI and about as many again, plus the image quality and general production values are far superior. It actually looks and feels like it is worth $129. CSI is another matter entirely. I must admit I was stunned when told its purchase price of $110 and would have guessed about a quarter of that at most. As well as the criticisms listed above, the print quality is particularly bad. For those desperate to have a copy, it will hopefully be available locally at a much reduced price.

Although not the subject of this review, another book about seaweeds of the region, and which probably includes the vast majority of species found in both books, is: Coppejans, E., Leliaert, F., Dargent, O., Gunasekara, R., De Clerck, O. (2009). Sri Lankan Seaweeds—Methodologies and field guide to the dominant species. Abc Taxa, vol 6, i–viii, 265 pp. 24.20 Euro (http://www.abctaxa.be/downloads/volume-6-algae-sri-lanka) This book includes descriptions and photographs of about 142 species, but in addition has extensive sections on Sri Lankan habitats and climate, plus advice on collecting, preserving, and identifying seaweeds, the latter noticeably lacking from both CSI and SI. And the photography is superb! For those with limited budgets, this book is available as a free download or as hard copy for a very reasonable US$35.